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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,159	02/13/2006	Giuseppe Caputo	SIB-001	5913

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EXAMINER	
CHU, YONG LIANG	
ART UNIT	**PAPER NUMBER**
1626	

MAIL DATE	DELIVERY MODE
10/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,159	CAPUTO, GIUSEPPE	
	Examiner	Art Unit	
	Yong Chu	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2006*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-10 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1,2,4-10 and 13* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-2, 4-10, and 13 are currently pending in the instant application and are subject to the following lack of unity requirement.

Election/Restrictions

Restriction is required under 35 U.S.C. 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Claims 1-20 are drawn to more than one inventive concept (as defined in PCT Rule 13), and accordingly, a restriction is required according to the provision of PCT Rule 13.2

PCT Rule 13.2 states that the international application shall relate to one invention only or to a group of inventions so linked as to form a general inventive concept (requirement of unity of invention).

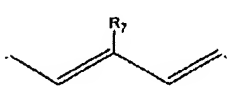
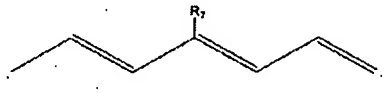
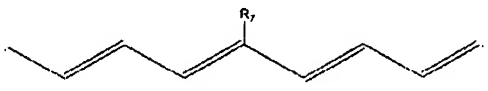
PCT Rule 13.2 states that unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Due to the numerous and widely divergent variables in the compound of formula (I), for example W_1, W_2, R^1, R^2, R^3, R^4, R^5, R^6, R^7, X_1, X_2, Q, Y etc., and each substituent

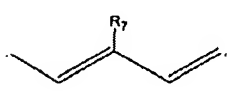
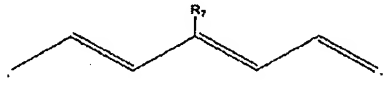
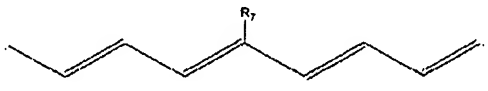
includes many groups, a precise listing of inventive groups cannot be made. The following groups are exemplary:

Group I: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is

 ,  , or  ;

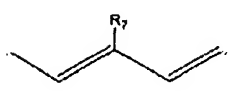
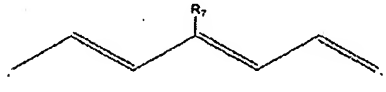
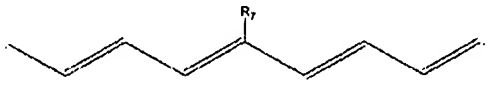
X_1 is –O; X_2 is –O; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group II: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is

 ,  , or  ;

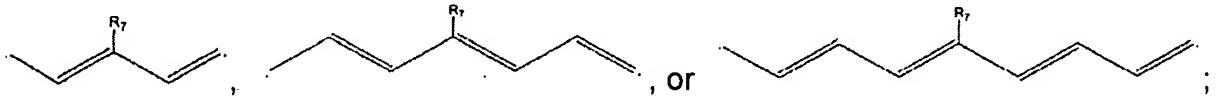
X_1 is –O; X_2 is –S; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

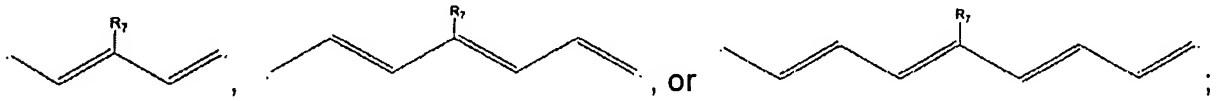
Group III: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is

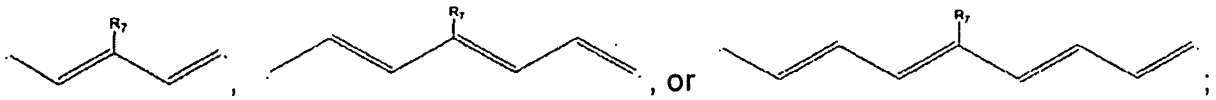
 ,  , or  ;

X_1 is –O; X_2 is –Se; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined

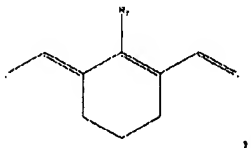
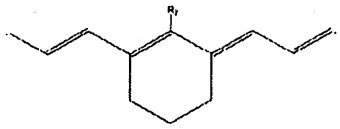
in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

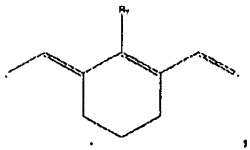
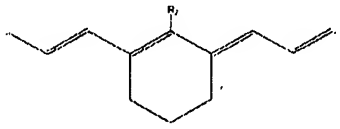
Group IV: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  ; **X_1** is –O; **X_2** is $-C(CH_3)_2$; **W_1** and **W_2** are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

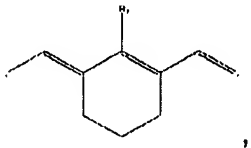
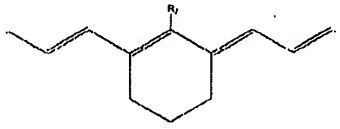
Group V: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  ; **X_1** is –O; **X_2** is –NH; **W_1** and **W_2** are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group VI: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  ; **X_1** is –O; **X_2** is –CH=CH-; **W_1** and **W_2** are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents

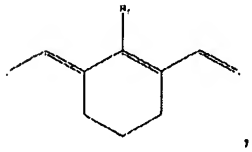
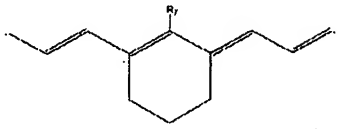
are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

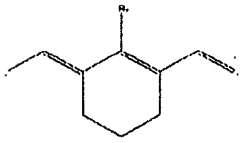
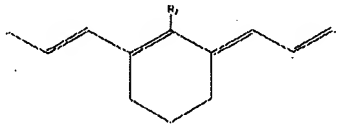
Group VII: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  , or  ; X_1 is –O; X_2 is –O; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

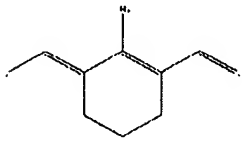
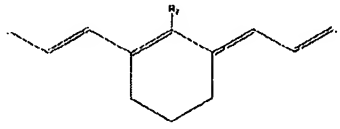
Group VIII: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  , or  ; X_1 is –O; X_2 is –S; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

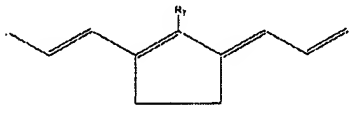
Group IX: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  , or  ; X_1 is –O; X_2 is –Se; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

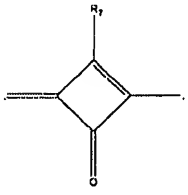
Group X: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is

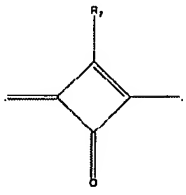
 , or  ; or X_1 is –O; X_2 is $-C(CH_3)_2$; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group XI: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  , or  ; X_1 is –O; X_2 is –NH; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

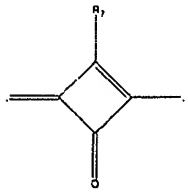
Group XII: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  , or  ; X_1 is –O; X_2 is –CH=CH-; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group XIII: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  ; $\mathbf{X_1}$ is –O; $\mathbf{X_2}$ is –CH=CH-; $\mathbf{W_1}$ and $\mathbf{W_2}$ are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group XIV: Claims 1-2, 4, and 13 are drawn to products of formula (I), wherein **Q** is  ; $\mathbf{X_1}$ is –O; $\mathbf{X_2}$ is –CH=CH-; $\mathbf{W_1}$ and $\mathbf{W_2}$ are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1, and the use of a cyanine according to claim 1 as a fluorescent marker or quencher.

Group XV: Claims 5, 6, and 10 are drawn to products of formula (I), conjugated through the linker arm $–R_1-C\equiv CH$ with a biomolecule, wherein **Q** is  ; $\mathbf{X_1}$ is –O; $\mathbf{X_2}$ is –CH=CH-; $\mathbf{W_1}$ and $\mathbf{W_2}$ are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1.

Group XVI: Claims 7, 8, and 9 are drawn to products of formula (I), conjugated



through the linker arm $-R_1-C\equiv CH$ with a fluorescent dye, wherein **Q** is ; X_1 is –O; X_2 is –CH=CH-; W_1 and W_2 are independently **a benzene ring or a naphthalene ring without heteroatom substitution**; and the remaining substituents are as defined in claim 1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. The elected group is subject to further restriction, if necessary.

Again, this list is not exhaustive as it would be impossible under the time constraints due to the sheer volume of subject matter instantly claimed. Therefore, applicant may choose to elect a single invention at the similar scope as the examples shown supra (a product or a method of use of said product) by identifying another specific embodiment, i.e. another value for X_1, X_2, W_1, and W_2, etc... not listed in the exemplary groups of the invention and examiner will endeavor to group the same.

The claims herein lack unity of invention under PCT rule 13.1 and 13.2 since, under 37 CFR 1.475(a) the compounds defined in the claims lack a significant structural element qualifying as the special technical feature evidenced by formula (I) with numerous and widely divergent variables in the compound of formula (I), and conjugates to various biological molecules. Accordingly, unity of invention is

considered to be lacking and restriction of the invention in accordance with the rules of unity of invention is considered to be proper. Additionally, the vastness of the claimed subject matter, and the complications in understanding the claimed subject matter imposes a serious burden on any examination of the claimed subject matter.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed Yong Chu whose telephone number 571-272-5759. The examiner can normally be reached on 7:00 am - 3:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yong Chu, Ph.D.
Patent Examiner, AU 1626

REBECCA ANDERSON
PRIMARY EXAMINER

Joseph K. McKane
Supervisory Patent Examiner, AU 1626